Assignment Report

Algorithms

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Problem 1:

- Time Complexity: O(n+m) where n is the number of nodes in the first BST and m is the number of nodes in the second BST.
- Space Complexity: O(n+m) for building the inorder traversal and O(1) for finding the common nodes. Please note that I have decide to build the inorder traversal instead of building the original trees.

Problem 2:

- Time Complexity: O(V+E).
- Space Complexity: O(V) “Implicit recursion stack”.

Problem 3:

- Time Complexity: O(V^2+E).
- Space Complexity: O(V).

Problem 4:

- Time Complexity: O(n^2).
- Space Complexity: O(n^2).

Problem 5:

- Time Complexity: O(n^2).
- Space Complexity: O(n^2).